

to Nagamura et al. ("Nagamura"). Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kikuchi in view of Japanese Patent No. JP 361160725A to Hibino.

In accordance with the present response, the specification has been suitably revised to correct informalities and place it in better conformance with U.S. practice. Original independent claim 1 has been amended to further patentably distinguish from the prior art of record. Original claims 1-6 have also been amended in formal respects to improve the wording thereof. New claims 7-20 have been added to provide a fuller scope of coverage. A proposed drawing revision has been submitted in Fig. 6. A new abstract which more clearly reflects the invention to which the claims are directed has been substituted for the original abstract.

Attached hereto is a marked-up version of the changes made to the abstract, specification and claims by the current amendment. The attached pages i-vii are captioned **"VERSION WITH MARKINGS TO SHOWN CHANGES MADE."**

Applicant respectfully requests reconsideration of his application in light of the following discussion.

Brief Summary of the Invention

The present invention is directed to an arm portable information apparatus.

As described in the specification (pgs. 1-2), in a conventional arm portable information apparatus a film liquid crystal device is disposed in contact with a surface of a case supporting the film liquid crystal device. As a result, the film liquid crystal device is likely to be damaged when the arm portable information apparatus is subjected to vibrations, particularly when the arm portable information apparatus is carried by the user.

The present invention overcomes the drawbacks of the conventional art. Figs. 1-3 show an embodiment of an arm portable information apparatus according to the present invention embodied in the claims. The arm portable information apparatus has a case 1 and a film liquid crystal device 6 disposed in the case and having a pair of opposite side edge portions. A pair of support members 7 is connected to the case 1 and supports the film liquid crystal device 6 within the case 1. Each of the support members 7 has at least one groove 8 receiving a respective one of the side edge portions of the film liquid crystal device 6 so that the film liquid crystal device 6 does not contact any part of the arm portable information apparatus except for the contact between the support members 7 and the side edge portions of the film liquid crystal device.

In another embodiment shown in Fig. 6, the arm portable information apparatus has a case 1, a film liquid crystal device 6 disposed in the case 1 and having a pair of opposite side edge portions, and a polarizing plate 6b disposed in the case 1 and having a pair of opposite side edge portions. A pair of support members 7 are connected to the case 1 in confronting relation to one another and support the film liquid crystal device 6 and the polarizing plate 10 in spaced-apart relation. The support members 7 having a first pair of confronting grooves 31 each receiving respective ones of the side edge portions of the polarizing plate 6b and a second pair of confronting grooves 8 spaced apart from the first pair of grooves 31 and receiving respective ones of the side edge portions of the film liquid crystal device 6 so that the film liquid crystal device 6 does not contact the polarizing plate 6b and does not contact any part of the arm portable information apparatus except for the contact between the support members 7 and the side edge portions of the film liquid crystal device 6.

In another embodiment shown in Fig. 4, the arm portable information apparatus has a case 1, a film liquid crystal device 6 disposed in the case 1, and an illumination panel 10 disposed in the case 1 and overlapping the film liquid crystal device 6. A first pair of support members 21

is connected to the case 1 and supports the film liquid crystal device 6 so that the film liquid crystal device 6 does not contact any part of the arm portable information apparatus except for the first pair of support members 7. A second pair of support members 20 is connected to the case 1 and supports the illumination panel 10. A pair of spacing members 22 is disposed between the film liquid crystal device 6 and the illumination panel 10 and maintains the film liquid crystal device 6 and the illumination panel 10 in spaced-apart relation to one another.

By the foregoing construction of the present invention, the film liquid crystal device does not contact any part of the arm portable information apparatus except for the support members. Thus, even if the arm portable information apparatus is subjected to vibrations, the likelihood of damage of the film liquid crystal device is substantially reduced as compared to the conventional art.

The prior art of record does not disclose or suggest the subject matter recited in amended claims 1-6 and newly added claims 7-20.

Traversal of Prior Art Rejections

Rejection Under 35 U.S.C. §102(e)

Claims 1, 3, 4 and 5 were rejected under 35 U.S.C. §102(3) as being anticipated by Kikuchi. Applicant

respectfully traverses this rejection and submits that amended claims 1, 3, 4 and 5 recite subject matter which is not identically disclosed or described in Kikuchi.

Amended independent claim 1 is directed to an arm portable information apparatus and requires a case, a film liquid crystal device disposed in the case and having a pair of opposite side edge portions, and a pair of support members connected to the case and supporting the film liquid crystal device, each of the support members having at least one groove receiving a respective one of the side edge portions of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the support members and the side edge portions of the film liquid crystal device. No corresponding structural combination is disclosed or suggested by Kikuchi.

Amended independent claim 5 is also directed to an arm portable information apparatus and requires a case having a connecting surface, a film liquid crystal device disposed in the case and having a first side edge portion and a second side edge portion disposed opposite to the first side edge portion, a first support member connected to the connecting surface of the case and supporting the first side edge portion of the film liquid crystal device, and a second support member

connected to the connecting surface of the case and supporting the second side edge portion of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the first and second support members and the first and second side edge portions of the film liquid crystal device. Again, no corresponding structural combination is disclosed or suggested by Kikuchi.

Kikuchi discloses an electronic device having a film liquid crystal 302 supported by a cover 301. Opposite side edges of the film liquid crystal 302 are inserted in holding portions 301a, 301b. The cover 301 is disposed in contact with the film liquid crystal 302 at the side edges and opposite main surfaces thereof.

In contrast, amended independent claim 1 requires a pair of support members connected to the case and supporting the film liquid crystal device, each of the support members having at least one groove receiving a respective one of the side edge portions of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the support members and the side edge portions of the film liquid crystal device. Likewise, amended claim 5 requires a second support member connected to the connecting

surface of the case and supporting the second side edge portion of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the first and second support members and the first and second side edge portions of the film liquid crystal device. Stated otherwise, amended claims 1 and 5 require that the only contact between the film liquid crystal device and the arm portable information apparatus is the contact between the support members and the side edge portions of the film liquid crystal device. This structural limitation is not met by Kikuchi in which the cover 301 is disposed in contact with portions of the film liquid crystal 302 (i.e., in contact with the upper main surface of the liquid crystal 302) other than the side edge portions thereof.

In the absence of the foregoing disclosure recited in amended independent claims 1 and 5, anticipation cannot be found. See, e.g., W.L. Gore & Associates v. Garlock, Inc., 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) ("Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration"); Continental Can Co. USA v. Monsanto Co., 20 USPQ2d 1746, 1748 (Fed. Cir. 1991) ("When more than one reference is required to establish unpatentability of the

claimed invention anticipation under § 102 can not be found".); Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added) ("Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim").

Stated otherwise, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. This standard is clearly not satisfied by Kikuchi for the reasons stated above. Furthermore, Kikuchi does not suggest the claimed subject matter and, therefore, would not have motivated one skilled in the art to modify Kikuchi's electronic device to arrive at the claimed invention.

Claims 3-4 depend on and contain all of the limitations of amended independent claim 1, and, therefore, distinguish from the references at least in the same manner as claim 1.

In view of the foregoing, applicant respectfully requests that the rejection of claims 1, 3, 4 and 5 under 35 U.S.C. §102(e) as being anticipated by Kikuchi be withdrawn.

Rejections Under 35 U.S.C. §103(a)

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kikuchi in view of Nagamura.

Applicant respectfully traverses this rejection and submits that the combined teachings of Kikuchi and Nagamura do not disclose or suggest the subject matter recited in amended claim 2.

The primary reference to Kikuchi does not disclose or suggest the subject matter recited in amended independent claim 1 as set forth above for the rejection of claims 1, 3, 4 and 5 under 35 U.S.C. §102(e). Claim 2 depends on and contains all of the limitations of amended independent claim 1 and, therefore, distinguishes from Kikuchi at least in the same manner as claim 1.

The secondary reference to Nagamura has been cited by the Examiner for its disclosure of a liquid crystal display having support members with grooves for supporting a liquid crystal panel and an illumination panel. However, Nagamura does not disclose or suggest a pair of support members connected to the case and supporting the film liquid crystal device, each of the support members having at least one groove receiving a respective one of the side edge portions of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the support members and the side edge portions of the film liquid crystal device, as required by amended independent claim 1,

from which claim 2 depends. Since Nagamura does not disclose or suggest this structural feature, it does not cure the deficiencies of Kikuchi. Accordingly, one ordinarily skilled in the art would not have been led to modify the references to attain the claimed subject matter.

In view of the foregoing, applicant respectfully requests that the rejection of claim 2 under 35 U.S.C. §103(a) as being unpatentable over Kikuchi in view of Nagamura be withdrawn.

Claim 6 was rejected under 35 U.S.C. §103(a) as being unpatentable over Kikuchi in view of Hibino. Applicant respectfully traverses this rejection and submits that the combined teachings of Kikuchi and Hibino do not disclose or suggest the subject matter recited in amended claim 6.

The primary reference to Kikuchi does not disclose or suggest the subject matter recited in amended independent claim 5 as set forth above for the rejection of claims 1, 3, 4 and 5 under 35 U.S.C. §102(e). Claim 6 depends on and contains all of the limitations of amended independent claim 5 and, therefore, distinguishes from Kikuchi at least in the same manner as claim 5.

The secondary reference to Hibino has been cited by the Examiner for its disclosure of a liquid crystal display having a polarizing plate mounted in a groove over a liquid

crystal panel. However, Hibino does not disclose or suggest a pair of support members connected to the case and supporting the film liquid crystal device, each of the support members having at least one groove receiving a respective one of the side edge portions of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the support members and the side edge portions of the film liquid crystal device, as required by amended independent claim 5, from which claim 6 depends. Since Hibino does not disclose or suggest this structural feature, it does not cure the deficiencies of Kikuchi. Accordingly, one ordinarily skilled in the art would not have been led to modify the references to attain the claimed subject matter.

In view of the foregoing, applicant respectfully requests that the rejection of claim 6 under 35 U.S.C. §103(a) as being unpatentable over Kikuchi in view of Hibino be withdrawn.

Applicant respectfully submits that new claims 7-20 also patentably distinguish from the prior art of record.

Claims 7-11 depend on and contain all of the limitations of amended independent claim 1 and, therefore, distinguish from the references at least in the same manner as claim 1.

Newly added independent claim 12 is directed to an arm portable information apparatus and requires a case, a film liquid crystal device disposed in the case and having a pair of opposite side edge portions, a polarizing plate disposed in the case and having a pair of opposite side edge portions, and a pair of support members connected to the case in confronting relation to one another and supporting the film liquid crystal device and the polarizing plate in spaced-apart relation, the support members having a first pair of confronting grooves each receiving respective ones of the side edge portions of the polarizing plate and a second pair of confronting grooves spaced apart from the first pair of grooves and receiving respective ones of the side edge portions of the film liquid crystal device so that the film liquid crystal device does not contact the polarizing plate and does not contact any part of the arm portable information apparatus except for the contact between the support members and the side edge portions of the film liquid crystal device. No corresponding structural combination is disclosed or suggested by the prior art of record as set forth above for amended independent claim 1.

Claims 13-16 depend on and contain all of the limitations of independent claim 12 and, therefore, distinguish from the references at least in the same manner as claim 12.

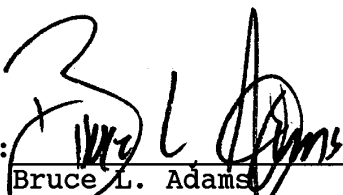
New independent claim 17 is directed to an arm portable information apparatus and requires a case, a film liquid crystal device disposed in the case, an illumination panel disposed in the case and overlapping the film liquid crystal device, a first pair of support members connected to the case and supporting the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the first pair of support members, a second pair of support members connected to the case and supporting the illumination panel, and a pair of spacing members disposed between the film liquid crystal device and the illumination panel and maintaining the film liquid crystal device and the illumination panel in spaced-apart relation to one another. Again, no corresponding structural combination is disclosed or suggested by the prior art of record as set forth above for amended independent claim 1.

Claims 18-20 depend on and contain all of the limitations of independent claim 17 and, therefore, distinguish from the references at least in the same manner as claim 17.



In view of the foregoing amendments and discussion,
the application is believed to be in allowable form.
Accordingly, favorable reconsideration and allowance of the
claims are most respectfully requested.

Respectfully submitted,
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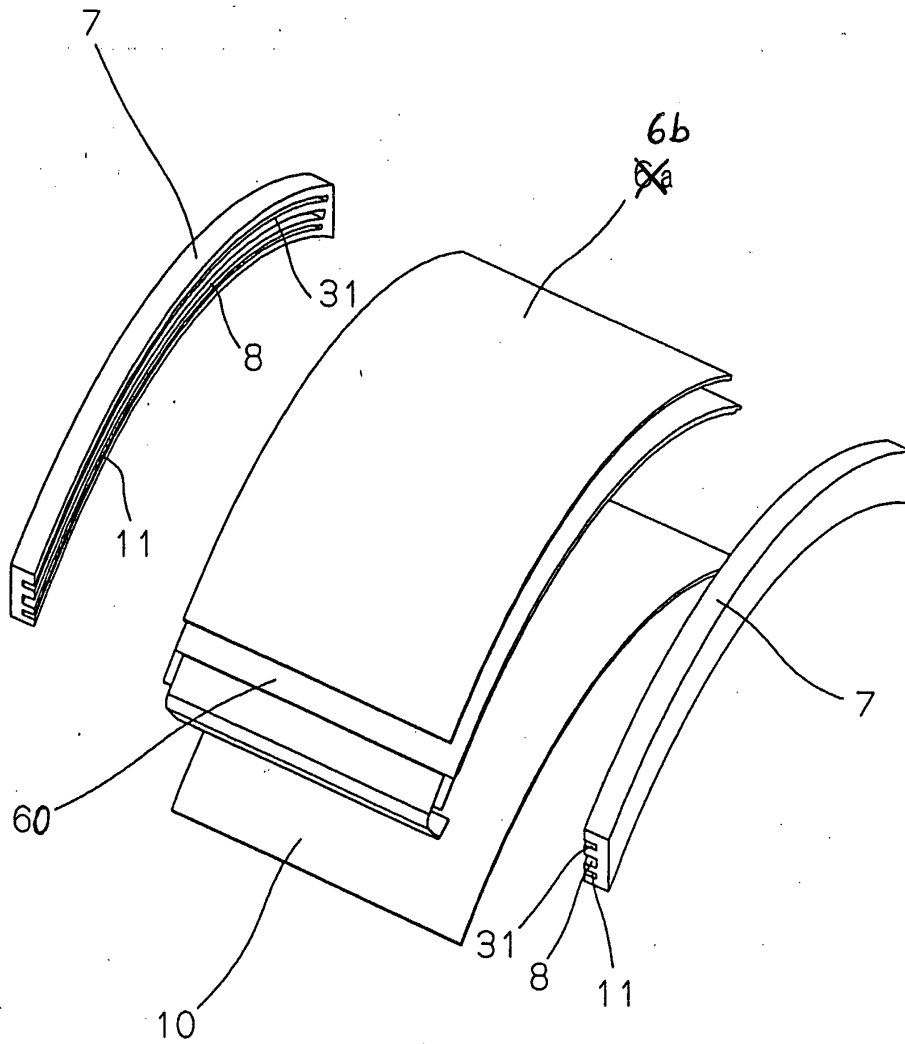
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FIG. 6





"VERSION WITH MARKINGS TO SHOW CHANGES MADE"

IN THE ABSTRACT:

The original abstract has been substituted by the following new abstract:

An arm portable information apparatus has a case and a film liquid crystal device disposed in the case and having a pair of opposite side edge portion. A pair of support members are connected to the case and support the film liquid crystal device. Each of the support members has at least one groove receiving a respective one of the side edge portion of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the support members and the side edge portions of the film liquid crystal device.

IN THE SPECIFICATION:

Paragraph beginning at line 3 of page 1 has been amended as follows:

The present invention relates to an arm portable information apparatus, such as an electronic watch and a cellular phone, [that] [is] adapted to a display information

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using a film liquid crystal device and which can prevent [damages] damage to the film liquid crystal [apparatus] device [and] so that it can accurately [surely] perform a display [as well] operation.

Paragraph beginning at line 22 of page 2 has been amended as follows:

Thus, the present invention has been devised in view of the above-mentioned problems in the conventional art, and it is an object of the present invention to provide an arm portable information apparatus that can prevent [damages] damage to the film liquid crystal at the time of mounting, carrying or the like and can [surely] accurately perform display as well.

Heading beginning at line 1 of page 5 has been amended as follows:

BRIEF DESCRIPTION [OF THE SEVERAL VIEWS] OF THE
DRAWINGS

Paragraph beginning at line 9 of page 12 has been amended as follows:

In addition, in the arm portable information apparatus of the present invention, [an] elongated first supporting members that are formed in a bent state are fixed

to an attaching portion inside the case, both edges of a film liquid crystal device are supported by these supporting members, and second supporting members are mounted on both the edges of this film liquid crystal device and, at the same time, these second supporting members are fixed to the above-mentioned attaching portion. Thus, damages to the film liquid crystal device can be prevented at the time of mounting, carrying or the like and display can be surely performed as well.

IN THE CLAIMS:

Claims 1-6 have been amended as follows:

1. (Amended) An arm portable information apparatus[,] comprising:

a case;

a film liquid crystal device disposed in the case and having a pair of opposite side edge portions; and

a [plural of elongated] pair of support members connected to the case and supporting the film liquid crystal device, each of the support members having at least one groove receiving a respective one of the side edge portions of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the

support members and the side edge portions of the film liquid crystal devices. [supporting member having grooves being formed in a bent state on a side, and

a film liquid crystal device being held by the supporting members such that both side edges of the film liquid crystal device are fit in the grooves, wherein

the supporting member is attached to an attaching portion provided in a case such that the film liquid crystal device becomes non-contact.]

2. (Amended) An arm portable information apparatus according to claim 1[,]; further comprising an illumination panel supported in the case by the support members and having a pair of opposite side edge portions; and wherein the at least one groove of each of the support members comprises a pair of grooves each receiving one of the side edge portions of a respective one of the film liquid crystal device and the illumination panel, the pair of grooves of each support member being spaced-apart from one another so that the film liquid crystal device does not contact the illumination panel.

[the supporting members are provided a plural of grooves for holding an illumination panel;

the grooves are formed in a bent state below the groove in which the film liquid crystal device is fit and a predetermined space apart from the groove.]

3. (Amended) An arm portable information apparatus according to claim 1[,]; wherein each of the support members has a preselected radius of curvature and are connected to a surface of the case having the preselected radius of curvature. [supporting members are provided a plural of layers of grooves in which the film liquid crystal device is fit.]

4. (Amended) An arm portable information apparatus according to claim 1[,]; wherein each of the support members has a plurality of leg portions supporting the respective side edge portion of the film liquid crystal device. [the supporting members are a plural of legs for supporting parts of the film liquid crystal apparatus, the plural of legs are further provided in the grooves in which the film liquid crystal device is fit.]

5. (Amended) An arm portable information apparatus comprising:

a case having a connecting surface; [an attaching portion,]

a film liquid crystal device disposed in the case and having a first side edge portion and a second side edge portion disposed opposite to the first side edge portion;

a first support member connected to the connecting surface of the case and supporting the first side edge portion of the film liquid crystal device; and [supporting member

which is formed in a bent state being fixed to the attaching portion of the case, which is elongated,

a film liquid crystal device whose both edges are supported by the supporting members,]

a second support member connected to the connecting surface of the case and supporting the second side edge portion of the film liquid crystal device so that the film liquid crystal device does not contact any part of the arm portable information apparatus except for the contact between the first and second support members and the first and second side edge portions of the film liquid crystal device.

[supporting member being mounted on both the edges of the film liquid crystal device and, wherein

the second supporting member is fixed to the attaching portion.]

6. (Amended) An arm portable information apparatus according to claim [1,] 5; wherein the first support member has at least one groove for receiving the first side edge portion of the film liquid crystal device; and wherein the second support member has at least one groove for receiving the second side edge portion of the film liquid crystal device. [wherein the supporting members are provided a plural of grooves in which an upper polarizing plate of the film

liquid crystal device is fit separately from the film liquid crystal device above the groove in which the film liquid crystal device is fit.]



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